

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY

(PCT Rule 71.1)

Applicant's or agent's file reference 4743PTWO/ka		Date of mailing (day/month/year) 18.04.2006	
International application No. PCT/IB2005/000458	International filing date (day/month/year) 23.02.2005	Priority date (day/month/year) 24.02.2004	
IMPORTANT NOTIFICATION Applicant DANIELI & C. OFFICINE MECCANICHE S.P.A. et all.			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Appelen, A Tel. +31 70 340-4846	
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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 4743PTWO/ca	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/IB2005/000458	International filing date (day/month/year) 23.02.2005	Priority date (day/month/year) 24.02.2004
International Patent Classification (IPC) or national classification and IPC INV. B21C47/14 F16C17/03		
Applicant DANIELI & C. OFFICINE MECCANICHE S.P.A. et all.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application 		
Date of submission of the demand 27.12.2005	Date of completion of this report 18.04.2006	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer Barrow, J Telephone No. +31 70 340-2636	



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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/IB2005/000458

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
 - international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4)
 - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

1-9 as originally filed

Claims, Numbers

10-18 as originally filed
1-9 received on 11.01.2006 with letter of 02.01.2006

Drawings, Sheets

14-4/4 as originally filed

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. The amendments have resulted in the cancellation of:
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/IB2005/000458

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	1-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

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IAP11 Rec'd PCT/PTO 17 AUG 2006

International application No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (SEPARATE SHEET)

PCT/IB2005/000458

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following document:

D1: US-B2-6 543 712 (GRIMMEL RÜDIGER ET AL) 8 April 2003 (2003-04-08)

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):

A laying head for forming coils using continuous and substantially rectilinear rolled products comprising a support structure (10), a rotor (18) adapted to rotate about its own axis under the action of motor means and held in rotation by the support structure (10) by means of bearings (16,20).

The subject-matter of claim 1 differs from this known laying head in that there are only two bearings and that at least one of the two bearings incorporates vibration damping means comprising an oil film bearing of the hydrodynamic type.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as simplifying the construction and increasing the efficiency of a laying head.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

By providing a vibration damping means the laying head may be rotated at higher rotational speeds thereby increasing its efficiency. By using **only two** bearings, at least one of which incorporates said vibration damping means, the construction of the laying head is simplified and the risk of misalignment of the bearings e.g. as is more likely with the third support element of D1, is reduced.

Claims 2-9 are dependent on claim 1 and as such also meet the requirements of the PCT

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**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/IB2005/000458

with respect to novelty and inventive step.

11.01.2018

(100)

New claims

1. A laying head for forming coils using continuous and substantially rectilinear rolled products comprising a support structure (2), a rotor (3) adapted to rotate about its own axis (X) under the action of motor means and held in rotation by the support structure (2) by means of bearings (4), characterised in that the bearing are only two and that at least one of the two bearings (4) incorporates vibrations damping means comprising an oil film bearing (10) of the hydrodynamic type.
2. Laying head according to claim 1, wherein each of the bearings (4) incorporates said vibrations damping means.
3. Laying head according to claim 1, wherein, in proximity of a rolled product inlet side, at least one axial type hydrodynamic bearing is provided.
4. Laying head according to claim 1 or 2, wherein said hydrodynamic bearing (10) is of the "tilting pad" type.
5. Laying head according to claim 1 or 2, wherein said hydrodynamic bearing (10) is of the lobed type.
6. Laying head according to claim 5, wherein in said hydrodynamic bearing (10) there are provided three lobes.
7. Laying head according to claim 5, wherein in said hydrodynamic bearing (10) there are provided two lobes.
8. Laying head according to claim 7, wherein the arrangement of the lobes on the bearing is asymmetrical.
9. Laying head according to claim 1, wherein the oil film bearing (24) is of the "squeeze film" type.

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